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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,510	09/10/2003	Qiang Cao	44-21-24-5	3612

7590

12/14/2005

Docket Administrator (Room 3J-219)
Lucent Technologies Inc.
101 Crawfords Corner Road
Holmdel, NJ 07733-3030

EXAMINER

VU, MICHAEL T

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/659,510	Applicant(s) CAO ET AL.	
	Examiner Michael Vu	Art Unit 2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/10/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1, 4-6, 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merson (US 2003/0176189) in view of Matta (US 2003/0142651).

Regarding claim 1, Merson teaches A method of selecting cells of base stations of a network for mobile telecommunication for soft-handover connection with a mobile user terminal so as to provide at a first network node multiple received representations of a data frame from the mobile user terminal within a predetermined period (Title, [0004, 0006]), the method comprising: **but is silent on** for each cell, estimating delay due to transfer of a representation of the received data frame across interface between network nodes along a transfer path to said first network node by determining the

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contribution to the delay caused by each interface along the transfer path; selecting cells based upon their associated estimated delays.

However, Matta teaches the Quality of Service (QoS) aware handoff trigger decision for a wireless IP network, which is the QoS parameters that are collected are used to estimate one-way packet delay to form a basis for the handoff trigger decision. The QoS parameters that are collected are also used to estimate the available bandwidth, which refers to the length of time from the moment the last bit of the packet arrives at a link until its last bit leaves that link. Further, the QoS parameters are used to estimate packet jitter, which refers to packet inter-arrival times, to form a basis for the handoff trigger decision (Title, Abstract, [0016]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Merson, such that for each cell, estimating delay due to transfer of a representation of the received data frame across interface between network nodes along a transfer path to said first network node by determining the contribution to the delay caused by each interface along the transfer path; selecting cells based upon their associated estimated delays, to provide the QoS to ensure adequate performance on such metrics as latency or packet loss etc. for improving performance of a cellular network for handoff.

Regarding claims 4 and 9, Merson/Matta teach the method of selecting cells according to claim 1, wherein cells are selected dependent on factors comprising the delay estimated, the received signal quality and the radio resources available.

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However, Merson/Matta further teach those features above ([0028-0030] of Merson), and ([0016] of Matta).

Regarding claims 5 and 10, Merson/Matta teach the method of selecting cells according claim 1, **but is silent on** wherein each cell estimated as providing a representation of the received data frame that arrives at said first network node later than a predetermined time after the first of the representations of the received data frame is not selected. However, Matta further teaches the end-to-end QoS estimation techniques is done to determine handoff triggering and a limited amount of time to perform [0056-0057].

Regarding claim 6, Merson teaches a network for mobile telecommunications comprising a select or operative to select cells of base stations for soft-handover (Title, Abstract, Fig. 2 and Fig. 3, [0005, 0018] connection with a mobile user terminal so as to provide at a first network node multiple received representations of a data frame from the mobile user terminal within a predetermined period [0038], and further comprising **but is silent on** delay estimation means operative to estimate, for each cell, delay due to transfer of a representation of the received data frame across interface between network nodes along a transfer path to said first network node by determining the contribution to the delay caused by each interface along the transfer path, the selector being operative to select cells based upon their associated estimated delays.

However, Matta teaches the Quality of Service (QoS) aware handoff trigger decision for a wireless IP network, which is the QoS parameters that are collected are used to estimate one-way packet delay to form a basis for the handoff trigger decision.

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The QoS parameters that are collected are also used to estimate the available bandwidth, which refers to the length of time from the moment the last bit of the packet arrives at a link until its last bit leaves that link. Further, the QoS parameters are used to estimate packet jitter, which refers to packet inter-arrival times, to form a basis for the handoff trigger decision (Title, Abstract, [0016]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Merson, such that delay estimation means operative to estimate, for each cell, delay due to transfer of a representation of the received data frame across interface between network nodes along a transfer path to said first network node by determining the contribution to the delay caused by each interface along the transfer path, the selector being operative to select cells based upon their associated estimated delays, to provide the QoS to ensure adequate performance on such metrics as latency or packet loss etc. for improving performance of a cellular network for handoff.

3. Claims 2-3, 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merson/Matta in view of Satarasinghe (US 6,192,246).

Regarding claims 2 and 7, Merson/Matta teach the method of selecting cells according to claim 1, **but is silent on** for inclusion in an active set of cells in soft-handover connection. However, Satarasinghe teaches either keeping or removing cells in the active set based on measuring pilot signal strength or round trip delay (Abstract, C2, L33-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Merson/Matta, such that for inclusion in an active set of cells in soft-handover connection, to provide conditions for using the most suitable cells based on measured delay are included in a Active Set to support the communications network for improving performance of a cellular network for handoff.

Regarding claims 3 and 8, Merson/Matta teach the method of selecting cells according to claim 1, **but is silent on** for inclusion in a set of cells to be monitored as to radio quality for possible inclusion in an active set of cells in soft-handover connection. However, Satarasinghe teaches either keeping or removing cells in the active set based on measuring pilot signal strength or round trip delay (Abstract, C1, L16-55, C2, L33-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Merson/Matta, such that for inclusion in a set of cells to be monitored as to radio quality for possible inclusion in an active set of cells in soft-handover connection, to provide conditions for using the most suitable cells based on measured delay are included in a Active Set to support the communications network for improving performance of a cellular network for handoff.

Response to Arguments

4. Applicant's arguments, see the remarks pages 5-6, filed 09/14/2005, with respect to the rejection(s) of claim(s) 1 and 6 under (103a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further

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consideration, a new ground(s) of rejection is made in view of Merson US (2003/0176189), Matta (US 2003/0142651), and Satarasinghe (US 6,192,246).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Siira (US 5,978,680)
2. Siira (US 5,825,760)
3. Siira (US 6,038,458)
4. Kamel (6,496,531)
5. Vilmur (5,590,177)
6. Abu-Amara (US 5,930,714)
7. Merson US 2003/0176189
8. Matta US 2003/0142651

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Vu whose telephone number is (571)272-8131. The examiner can normally be reached on 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael Vu



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